

Amendments to the Claims

Please cancel claims 1-29 without prejudice. Please add new claims 30-47 as shown below in the list of claims.

List of Claims

- 1-29. Cancelled.
30. (New) A polypeptide that has the biological activity of an NAD- or NADP-dependent alcohol dehydrogenase and which comprises one of the following sequences: the sequence of SEQ ID NO:1, the sequence of SEQ ID NO:2, the sequence of SEQ ID NO:3 or a sequence which is at least 90% identical to the sequence of SEQ ID NO:3, the sequence of SEQ ID NO:4, the sequence of SEQ ID NO:5 or a sequence which is at least 90% identical to the sequence of SEQ ID NO:5, the sequence of SEQ ID NO:6 or a sequence which is at least 90% identical to the sequence of SEQ ID NO:6, the sequence of SEQ ID NO:7 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:7, the sequence of SEQ ID NO:8 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:8, the sequence of SEQ ID NO:9 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:9, the sequence of SEQ ID NO:10 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:10, the sequence of SEQ ID NO:11 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:11, the sequence of SEQ ID NO:12 or a sequence which is at least 60% identical to the sequence of SEQ ID NO:12, the sequence of SEQ ID NO:13 or a sequence which is at least 60% identical to the sequence of SEQ ID NO:13, the sequence of SEQ ID NO:14 or a sequence which is at least 75% identical to the sequence of SEQ ID NO:14, the sequence of SEQ ID NO:15 or a sequence which is at least 95% identical to the sequence of SEQ ID NO:15, the sequence of SEQ ID NO:16 or a sequence which is at least 95% identical to the sequence of SEQ ID NO:16, the sequence of SEQ ID NO:17 or a sequence which is at least 75% identical to the sequence of SEQ ID NO:17, the sequence of SEQ ID NO:18 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:18, the sequence of SEQ ID NO:19 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:19, the sequence of SEQ ID

NO:20 or a sequence which is at least 60% identical to the sequence of SEQ ID NO:20, the sequence of SEQ ID NO:21 or a sequence which is at least 90% identical to the sequence of SEQ ID NO:21, the sequence of SEQ ID NO:22 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:22, the sequence of SEQ ID NO:23 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:23, the sequence of SEQ ID NO:24 or a sequence which is at least 65% identical to the sequence of SEQ ID NO:24, the sequence of SEQ ID NO:25 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:25, the sequence of SEQ ID NO:26 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:26, the sequence of SEQ ID NO:27 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:27, the sequence of SEQ ID NO:28 or a sequence which is at least 75% identical to the sequence of SEQ ID NO:28, the sequence of SEQ ID NO:29 or a sequence which is at least 70% identical to the sequence of SEQ ID NO:29, the sequence of SEQ ID NO:30 or a sequence which is at least 60% identical to the sequence of SEQ ID NO:30, the sequence of SEQ ID NO:31 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:31, the sequence of SEQ ID NO:32 or a sequence which is at least 55% identical to the sequence of SEQ ID NO:32, the sequence of SEQ ID NO:33 or the sequence of SEQ ID NO:34.

31. (New) An isolated nucleic acid molecule comprising a nucleotide sequence encoding the polypeptide of claim 30 or which is complementary to said nucleotide sequence.
32. (New) A vector, which comprises the nucleic acid molecule of claim 31.
33. (New) A nonhuman host, which comprises the vector of claim 32.
34. (New) The nonhuman host of claim 33, wherein said host is either:
 - a) a cell; or
 - b) a transgenic animal.

35. (New) The nonhuman host of claim 33, further comprising a dehydrogenase suitable for cofactor regeneration or a nucleic acid molecule encoding said dehydrogenase.
36. (New) The nonhuman host of claim 33, further comprising formate dehydrogenase or glucose dehydrogenase.
37. (New) A reaction system, comprising an organic compound which is a substrate of a dehydrogenase, together with the polypeptide of claim 30, a vector comprising a nucleotide sequence encoding said polypeptide of claim 30, or a nonhuman host comprising said vector and, optionally, a cofactor of the polypeptide of claim 30.
38. (New) The reaction system as claimed in claim 37, in which:
 - a) the organic compound which is a substrate of a dehydrogenase is a carbonyl compound or an alcohol; and/or
 - b) the cofactor is NADH, NADPH, NAD^+ or NADP^+ .
39. (New) The reaction system of claim 37, wherein the organic compound which is a substrate of a dehydrogenase is an aldehyde, a ketone, a primary alcohol or a chiral secondary alcohol.
40. (New) The reaction system of claim 37, wherein the organic compound which is a substrate of a dehydrogenase is an asymmetrically substituted ketone.
41. (New) A process for preparing the polypeptide of claim 30, comprising:
 - a) growing a nonhuman host comprising a vector having a nucleotide sequence encoding the polypeptide of claim 30 and isolating said polypeptide; or
 - b) isolating said polypeptide from a body fluid or tissue sample of the host.
42. (New) A process for producing an organic product compound which is a product of a dehydrogenase, comprising reacting an organic compound which is a substrate of a dehydrogenase with the polypeptide of claim 30, a nonhuman host comprising a

vector having a nucleotide sequence encoding the polypeptide of claim 30 or by means of a reaction system comprising an organic compound which is a substrate of a dehydrogenase, together with the polypeptide of claim 30, a vector comprising a nucleotide sequence encoding said polypeptide of claim 30, or a nonhuman host comprising said vector and, optionally, a cofactor of the polypeptide of claim 30.

43. (New) The process of claim 42, which further comprises:
 - a) isolating the product of the reaction;
 - b) processing the product to give a medicament.
44. (New) The process of claim 42, in which the product is an enantiomerically pure alcohol.
45. (New) One or more primers having a sequence depicted in Table 1.
46. (New) The primers of claim 45, wherein said primers constitute a primer pair, with the first primer of said primer pair serving as a forward primer and the second primer of said primer pair serving as a reverse primer to amplify a DNA sequence.
47. (New) A kit, comprising
 - (a) the polypeptide as claimed in claim 30;
 - (b) a nucleic acid molecule comprising a nucleotide sequence encoding said polypeptide;
 - (c) a vector comprising said nucleic acid molecule of paragraph b);
 - (d) a nonhuman host comprising said vector of paragraph c);
 - (e) a reaction system, comprising an organic compound which is a substrate of a dehydrogenase, together with the polypeptide of claim 30, a vector comprising a nucleotide sequence encoding said polypeptide of claim 30, or a nonhuman host comprising said vector and, optionally, a cofactor of the polypeptide of claim 30;
 - (g) at least one primer having a sequence shown in Table 1; and/or

- (h) a primer pair each member of the pair having a sequence shown in Table 1, wherein the first primer of said primer pair serving as a forward primer and the second primer of said primer pair serving as a reverse primer to amplify a DNA sequence.